

REMARKS/ARGUMENTS

This amendment is responsive to the Office Action that issued August 9, 2005. In light of the following remarks, reconsideration and removal of the grounds for rejection are respectfully requested.

The Applicants would like to thank the Examiner for the indication that Claims 4-16 and 20-25 are allowed.

It was noted during review of the pending claims that a prior Amendment submitted on December 21, 2004 introduced inadvertent errors into each of Claims 1, 4, 17, and 20 wherein the term "first facial image" was substituted for the term "second facial image", as for example originally submitted in Claim 1. Each of Claims 1, 4, 17, and 20 are corrected herein to ensure that the present listing of claims is proper. It is respectfully requested that this correction to the claims be entered.

In the Office Action, Claims 1 and 17 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description. Claims 1 and 17 are amended herein to have the recitation "only four points ..." It is respectfully submitted that this recitation is well supported by the specification and is described in such a way in the specification as to clearly convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed subject

matter. Accordingly, it is respectfully requested that the 35 U.S.C. §112, first paragraph rejection of Claims 1 and 17 be withdrawn.

Claims 2 and 18 are rejected under 35 U.S.C. §112, second paragraph as being indefinite for having insufficient antecedence basis for the recitation "said four points ...". Claims 2 and 18 are amended herein to have the recitation "only four points" which has proper antecedence respectively from Claims 1 and 17. It is respectfully submitted that Claims 2 and 18 are now in proper form. Accordingly, it is respectfully requested that the 35 U.S.C. §112, second paragraph rejection of Claims 2 and 18 be withdrawn.

In the Office Action, Claims 1, 2, 17 and 18 are rejected under 35 U.S.C. §102(b) as being anticipated by an article entitled "Robust Head Motion Computation by Taking Advantage of Physical Properties" by Liu and Zhang (Liu). Further, Claims 3 and 19 are rejected under 35 U.S.C. §103(a) as being unpatentable over Liu in view of an article entitled "Head Pose Estimation Using both Color and Feature Information" by Chen (Chen). It is respectfully submitted that Claims 1-3 and 17-19, as amended, are patentable over Liu and Chen for at least the following reasons.

As noted by the Examiner in the Office Action on page 5, lines 13-14, Liu is directed to head motion estimation from five feature points (E1, E2, M1, M2, and N (e.g., see, Liu, ¶ 1, lines 1-4)).

Accordingly, Liu clearly does not disclose or suggest (emphasis provided) "obtaining a first facial image and detecting a head in said first image; detecting position of only four points  $P$  of said first facial image where  $P = \{p_1, p_2, p_3, p_4\}$ , and  $p_k = (x_k, y_k)$ ; obtaining a second facial image and detecting a head in said second image; detecting position of only four points  $P'$  of said second facial image where  $P' = \{p'_1, p'_2, p'_3, p'_4\}$  and  $p'_k = (x'_k, y'_k)$ ; and determining the motion of the head represented by a rotation matrix  $R$  and translation vector  $T$  using said points  $P$  and  $P'$ " as required by Claim 1 and as similarly required by Claim 17.

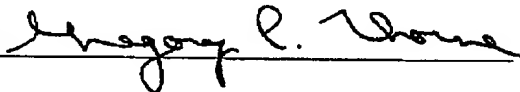
Based on the foregoing, the Applicants respectfully submit that independent Claims 1 and 17 are patentable over Chen and notice to this effect is earnestly solicited. Claims 2, 3, 18, and 19 depend respectively from one of Claims 1 and 17 and are allowable for at least this reason as well as for the separately patentable elements contained in each of said claims. Accordingly, separate consideration of each of the dependent claims is respectfully requested.

In addition, the Applicants deny any statement, position or averment of the Examiner that is not specifically addressed by the foregoing argument and response. The Applicants reserve the right to submit further arguments in support of the above stated position

as well as the right to introduce relevant secondary considerations including long-felt but unresolved needs in the industry, failed attempts by others to invent the invention, and the like, should that become necessary.

Applicants have made a diligent and sincere effort to place this application in condition for immediate allowance and notice to this effect is earnestly solicited.

Respectfully submitted,

By 

Gregory L. Thorne, Reg. 39,398  
Attorney for Applicant(s)  
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**THORNE & HALAJIAN, LLP**  
Applied Technology Center  
111 West Main Street  
Bay Shore, NY 11706  
Tel: (631) 665-5139  
Fax: (631) 665-5101